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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,257	08/15/2003	Kevin M. Haynes	00580-0187US	1540

32116 7590 01/30/2004

WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
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EXAMINER

ALSOMIRI, ISAM A

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,257

Applicant(s)

HAYNES, KEVIN M.

Examiner

Isam A Alsomiri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 9-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-8, drawn to a safety barrier comprising a blocking capacitor circuit, classified in class 342, subclass 198.
- II. Claims 9-17, drawn to an equivalent time sampling circuit to sample reflected pulses to build a time multiplied picture, classified in class 342, subclass 134.
- III. Claims 18-32, drawn to a controller determining a level time between a reference pulse and a level pulse, classified in class 342, subclass 124.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as blocking capacitor barrier circuit. See MPEP § 806.05(d).

Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as a blocking capacitor circuit. See MPEP § 806.05(d).

Inventions II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be

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separately usable. In the instant case, invention II has separate utility such as an equivalent time sampling circuit operable to sample reflected pulses to build a time-multiplied picture. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with F. William McLaughlin (Reg. 32,273) on January 19, 2004 a provisional election was made with traverse to prosecute the invention of group I, claims 1-8. Affirmation of this election must be made by applicant in replying to this Office action. Claims 9-32 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perdue et al. US 5,973,637 in view of DKE [*European Standard* EN 50020: 1994 pages 22 and 25-27].

Referring to claims 1, 4-5, and 6, Perdue discloses in figure 1 an active sensing element for sensing a characteristic of a process 16, a control circuit (10 and 46) disposed in the housing (inherently) and electrically connected (37) to the active sensing element for measuring the sensed characteristic. It's inherent that the control circuits is disposed in a housing or the like, which reads on the claimed "housing". Perdue is silent about a safety barrier comprising a blocking capacitor barrier electrically connected between the control circuit and the active sensing element. However, safety barriers (like the one claimed or similar) would be inherent in Perdue's system to protect the circuit components from damages due to high voltage, current or frequency, such as a surge protector. DKE teaches the blocking capacitors (connected in series) barrier electrically connected between an intrinsically safe circuits and non-intrinsically safe circuit (see page 25 section 8.5). In Perdue's system the intrinsically safe circuit is the control circuits and the non-intrinsically safe circuit is the transmission line or probe. Therefore, it would have been obvious to modify Perdue's system to include the series connected blocking capacitors between the non-intrinsic safe (which is the sensing element) and the intrinsically safe circuit which is the control circuit to protect the system components (resistors, transistors, capacitors, etc.) from damages from voltage spikes, high currents, or high frequencies. Furthermore, it's inherent that the capacitors are high voltage capacitors.

Referring to claims 2 and 7, Perdue teaches the guided wave radar transmission line (see col. 2 lines 34-44).

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Referring to claims 3 and 8, Perdue teaches the active sensing element comprises a capacitance probe (see col. 5 lines 53-55, col. 1 lines 54-65).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited to (Heidecke; Diede; McEwan '438; McEwan '059; Maas; Courane; Benway et al.) show various level measuring systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam A Alsomiri whose telephone number is 703-305-5702. The examiner can normally be reached on Monday-Thursday and every other Friday (8:30-5:00).

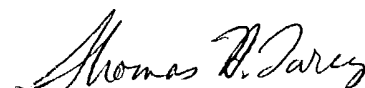
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Isam Alsomiri



January 20, 2004



THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600